

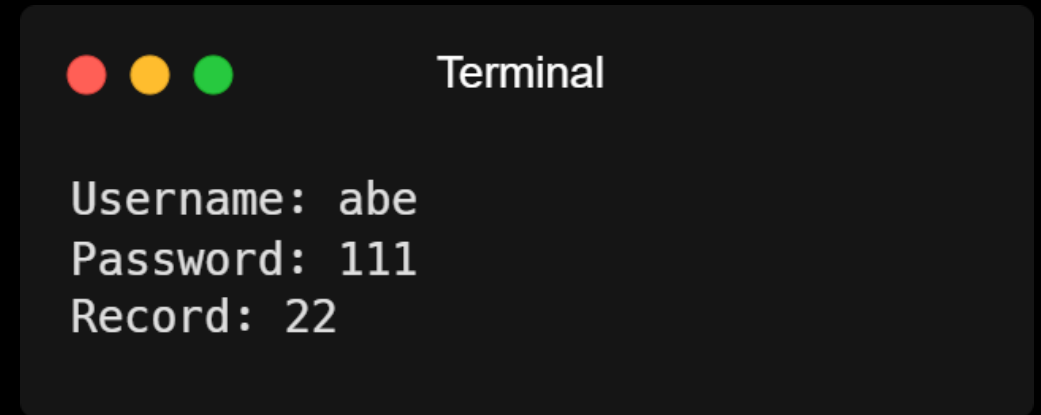
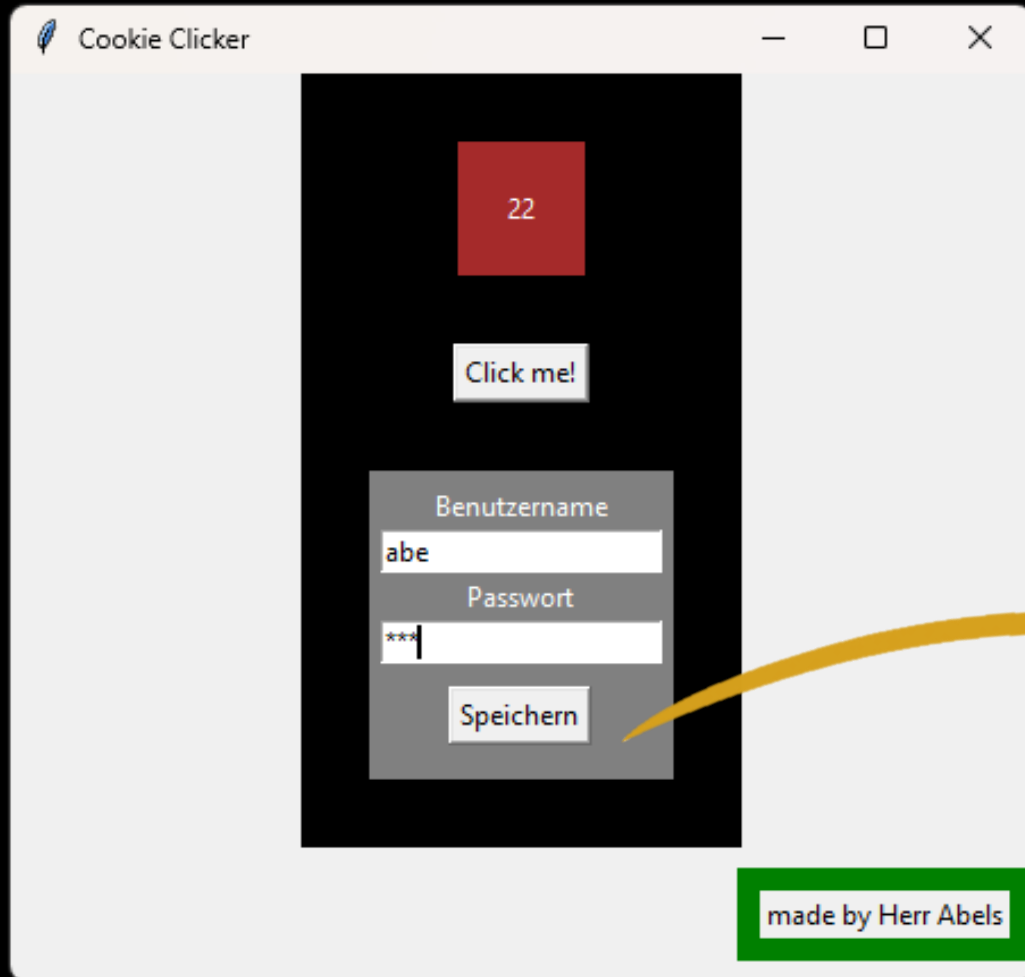
Informatik E2 Abels

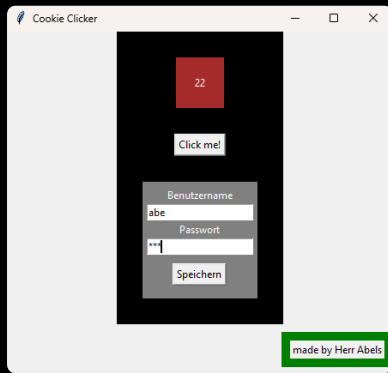


GUI

Graphical User Interface
mit TKinter

GUI – Beispiel





GUI – Beispiel

```
Cookieclicker.py

# libraries
from tkinter import *

# root
root = Tk()
root.title("Cookie Clicker")
root.geometry("450x400")

# components
frame = Frame(root, bg="black", bd=30)
frame.pack()

lbCookie = Label(frame, text=0, fg="white", bg="brown", padx="20", pady="20")
lbCookie.pack()

def set():
    count = lbCookie["text"]
    count_new = count + 1
    lbCookie.config(text = count_new)
btnCookie = Button(frame, text="Click me!", command = set)
btnCookie.pack(pady=30)

frameSave = Frame(frame, bg="grey", bd=5)
frameSave.pack()
```

```
lbName = Label(frameSave, text="Benutzername", bg="grey", fg="white")
lbName.pack()

enName = Entry(frameSave)
enName.pack()

lbPass = Label(frameSave, text="Passwort", bg="grey", fg="white")
lbPass.pack()

enPass = Entry(frameSave, show="*")
enPass.pack()

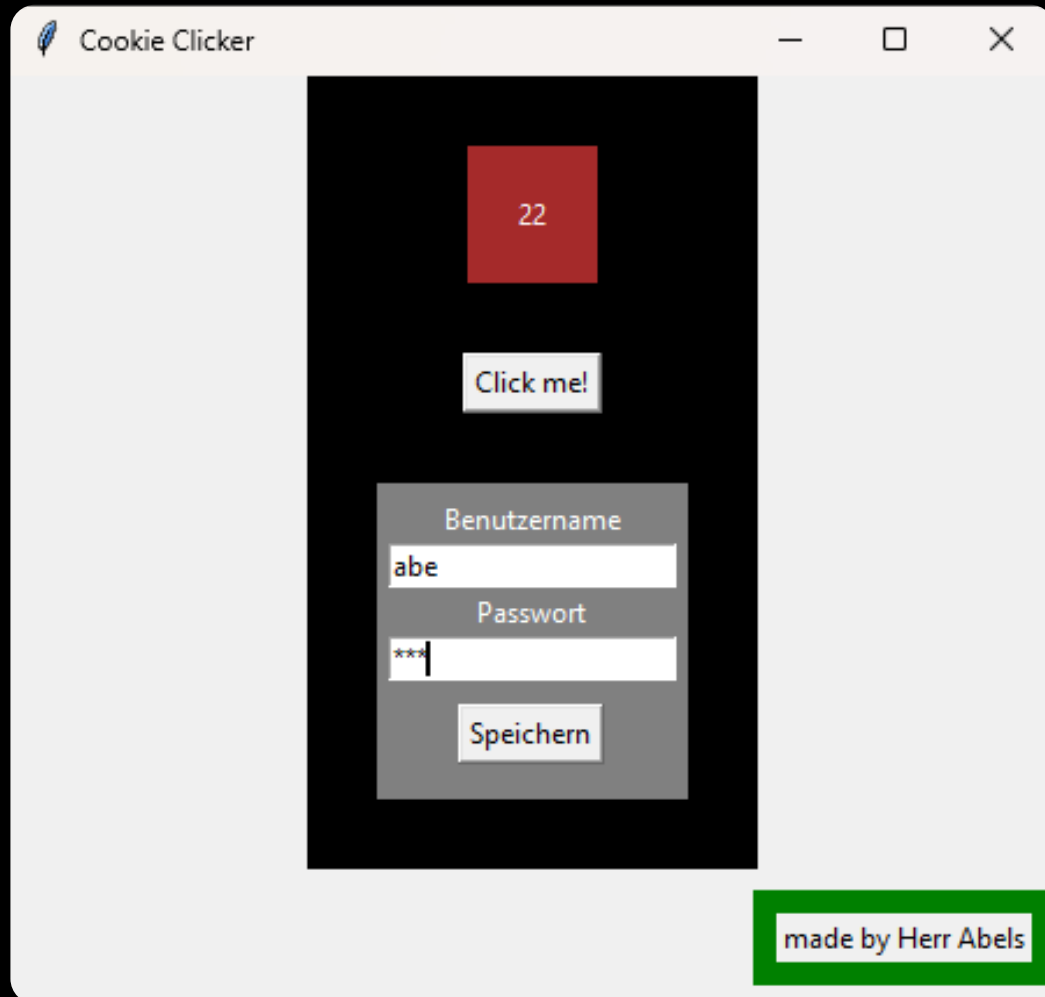
def save():
    username = enName.get()
    password = enPass.get()
    record = lbCookie["text"]
    print("Username:", username)
    print("Password:", password)
    print("Record:", record)
btnSave = Button(frameSave, text="Speichern", command = save)
btnSave.pack(pady=10)

frameAuthor = Frame(root, bg="green", bd=10)
frameAuthor.pack(side=RIGHT)

lbAuthor = Label(frameAuthor, text="made by Herr Abels")
lbAuthor.pack()

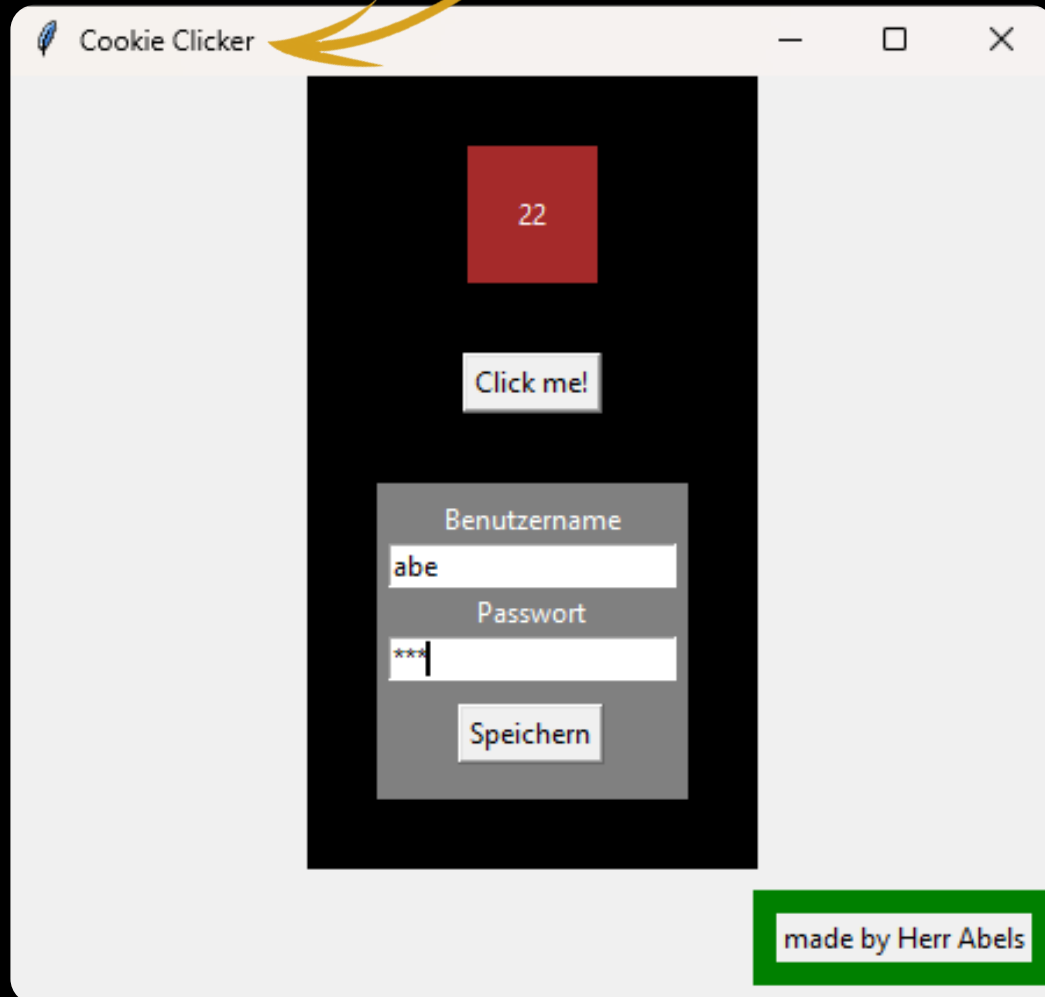
# run
root.mainloop()
```

GUI – Beispiel



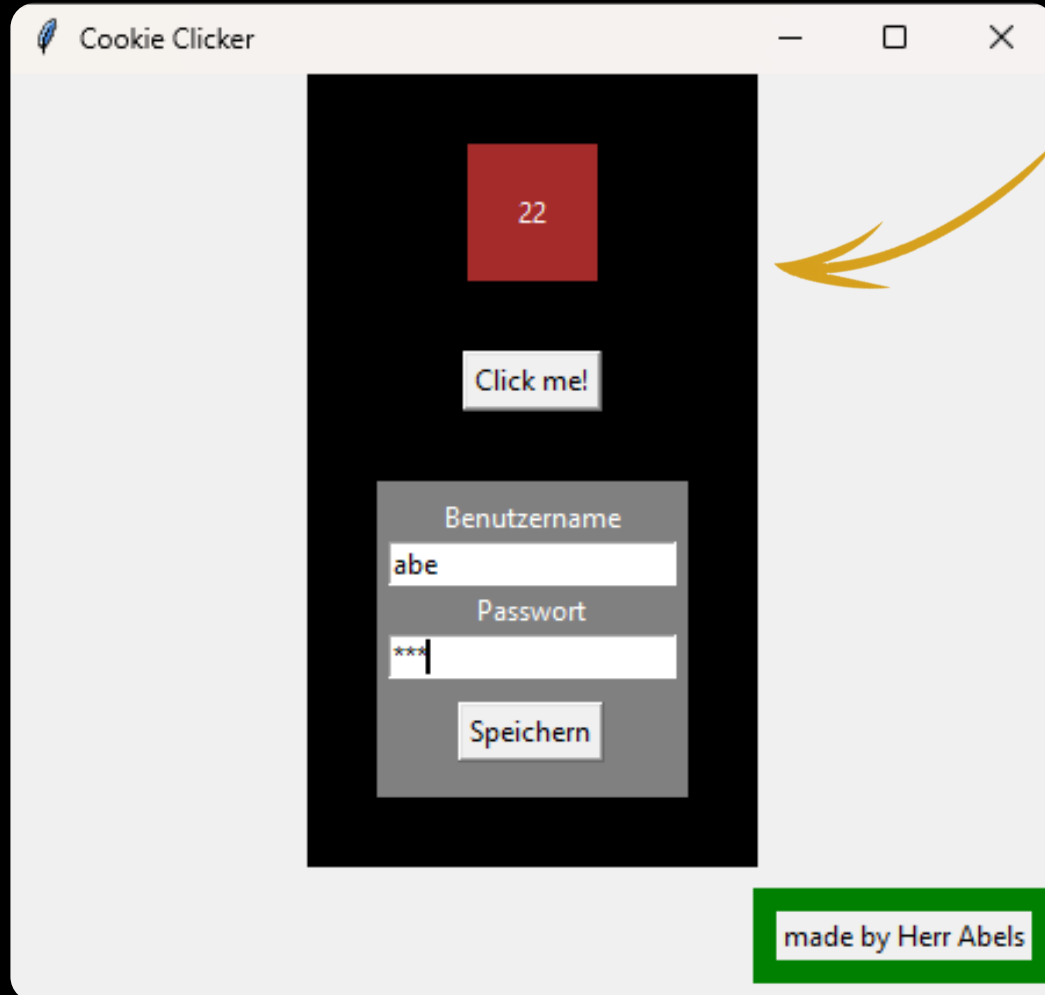
```
# libraries  
from tkinter import *
```

GUI – Beispiel



```
# root
root = Tk()
root.title("Cookie Clicker")
root.geometry("450x400")
```

GUI – Beispiel



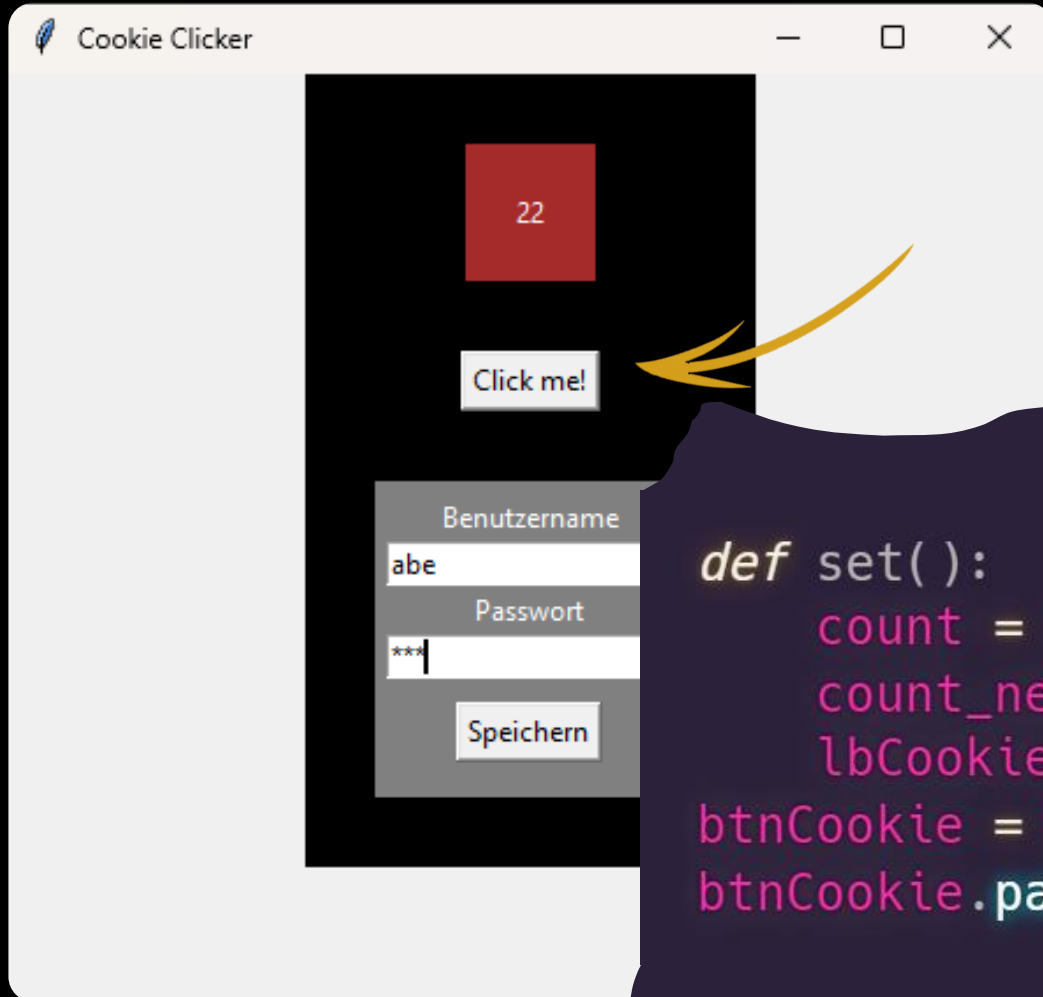
```
# components  
frame = Frame(root, bg="black", bd=30)  
frame.pack()
```

GUI – Beispiel



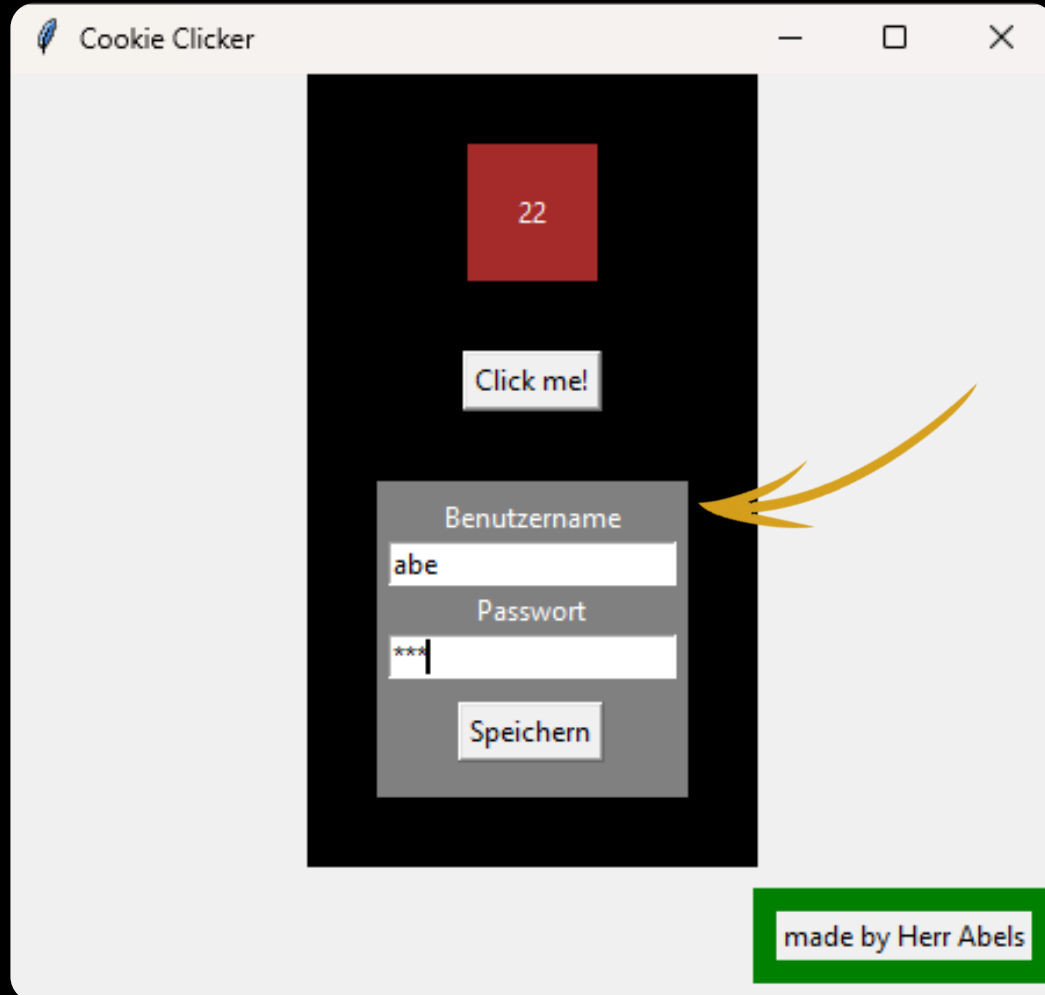
```
lbCookie = Label(frame, text=0, fg="white", bg="brown", padx="20", pady="20")  
lbCookie.pack()
```


GUI – Beispiel



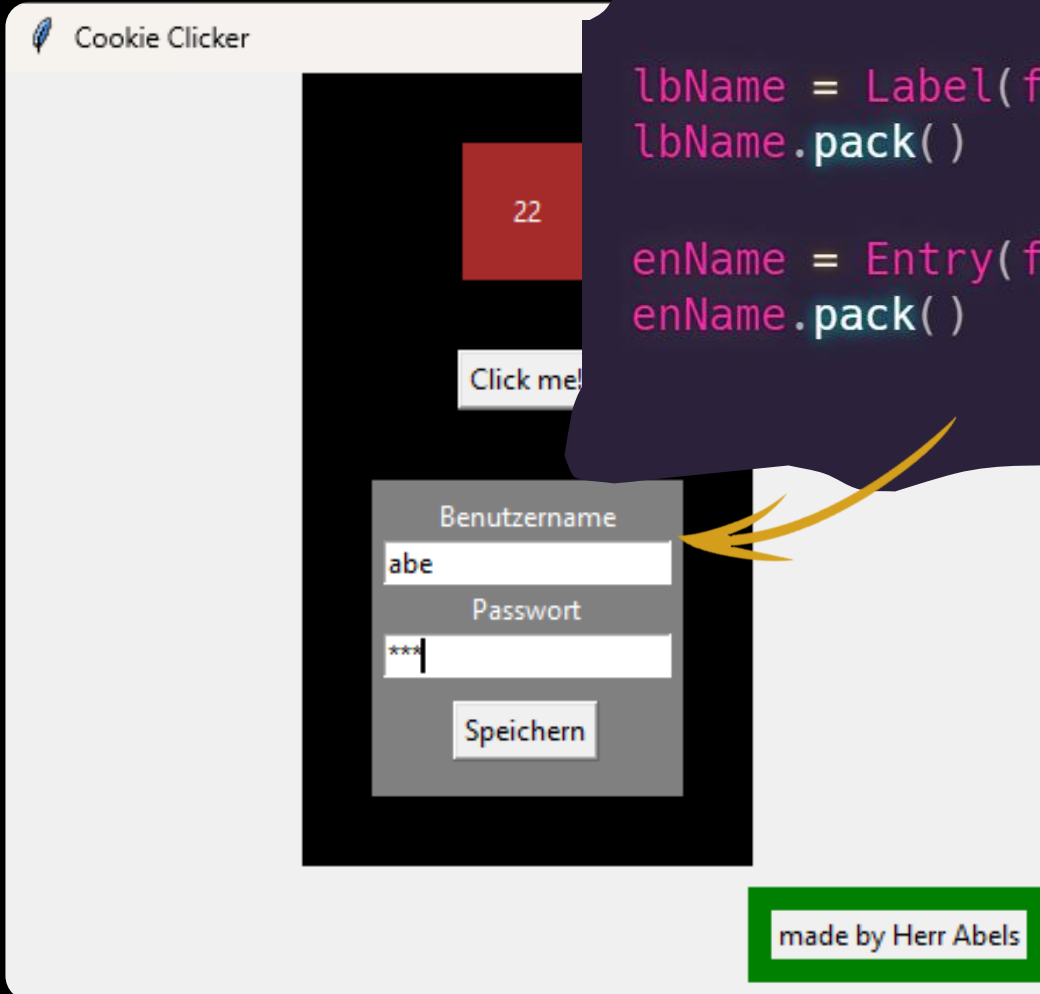
```
def set():  
    count = lbCookie["text"]  
    count_new = count + 1  
    lbCookie.config(text = count_new)  
btnCookie = Button(frame, text="Click me!", command = set)  
btnCookie.pack(pady=30)
```

GUI – Beispiel



```
frameSave = Frame(frame, bg="grey", bd=5)  
frameSave.pack( )
```

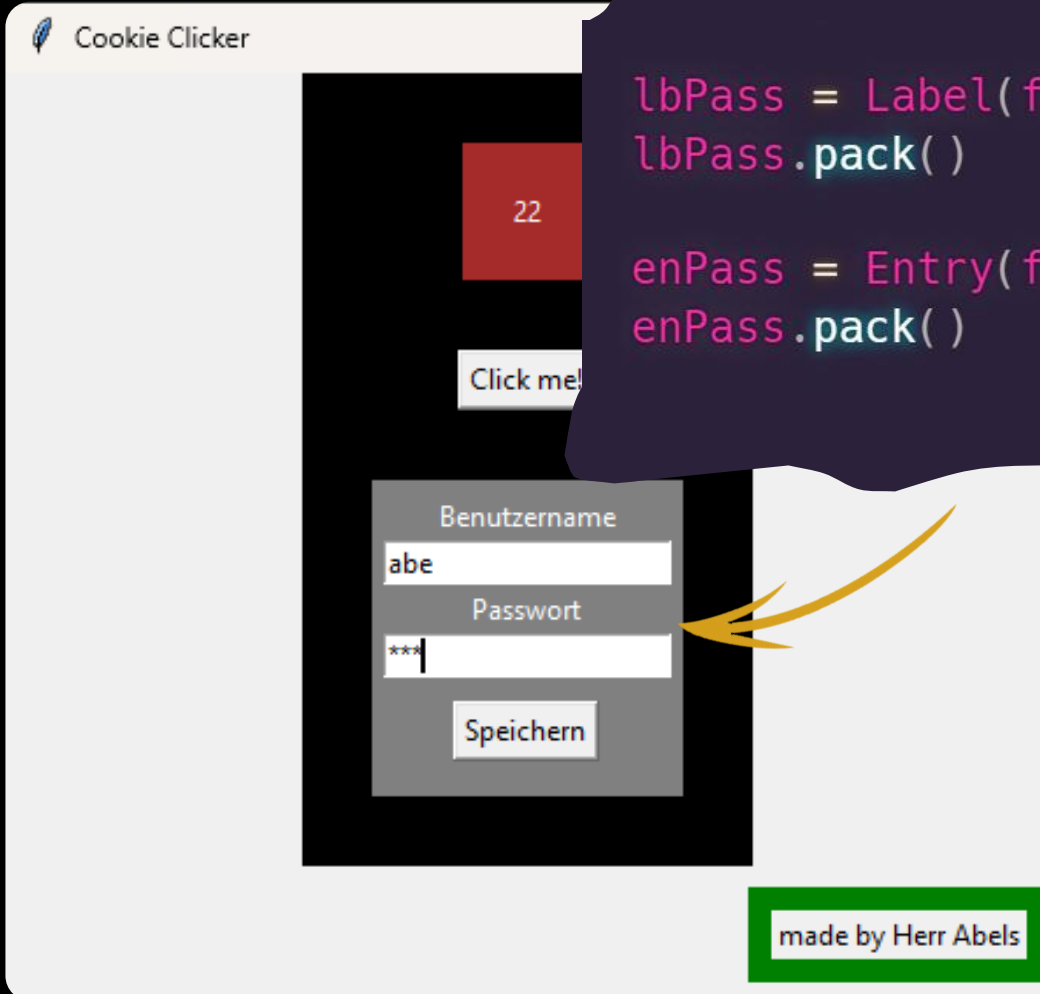
GUI – Beispiel



```
lbName = Label(frameSave, text="Benutzername", bg="grey", fg="white")  
lbName.pack()
```

```
enName = Entry(frameSave)  
enName.pack()
```

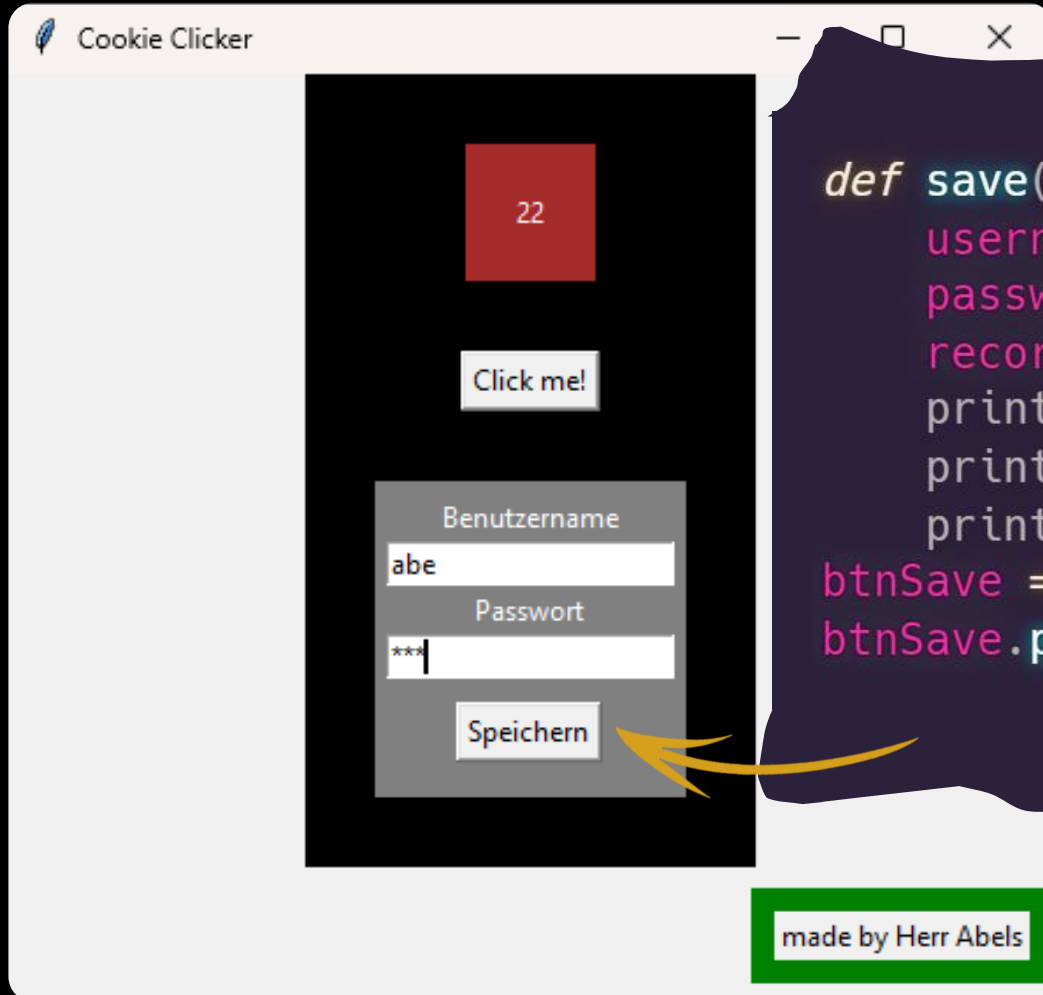
GUI – Beispiel



```
lbPass = Label(frameSave, text="Passwort", bg="grey", fg="white")  
lbPass.pack()
```

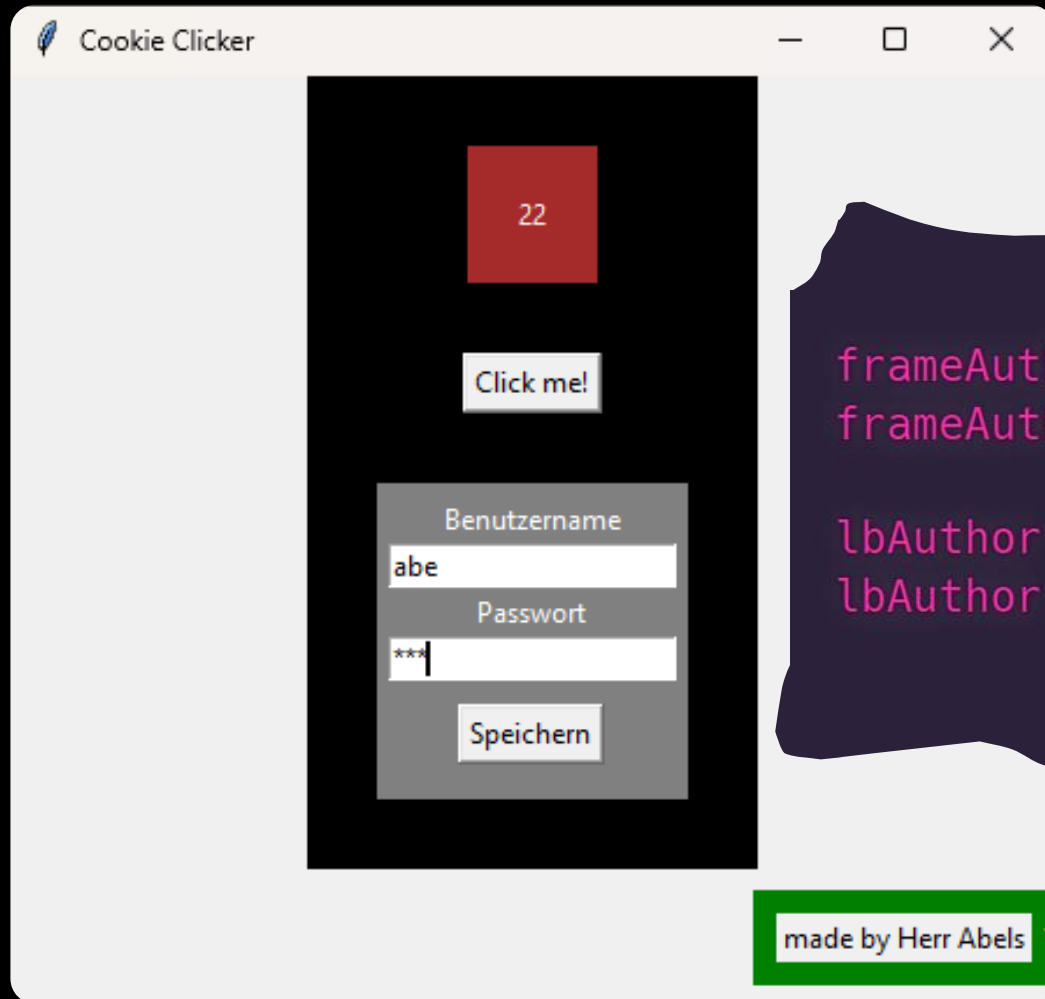
```
enPass = Entry(frameSave, show="*")  
enPass.pack()
```

GUI – Beispiel



```
def save():  
    username = enName.get()  
    password = enPass.get()  
    record = lbCookie["text"]  
    print("Username:", username)  
    print("Password:", password)  
    print("Record:", record)  
    btnSave = Button(frameSave, text="Speichern", command = save)  
    btnSave.pack(pady=10)
```

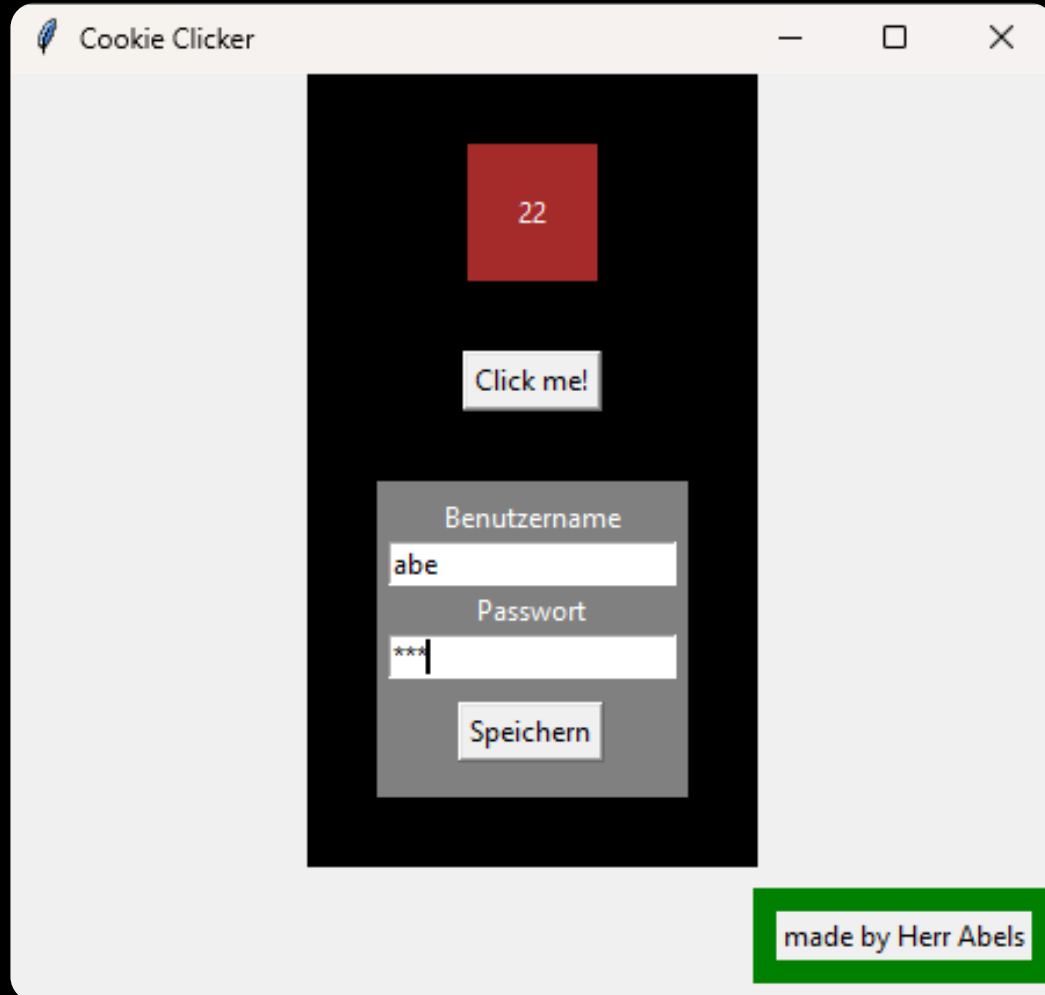
GUI – Beispiel



```
frameAuthor = Frame(root, bg="green", bd=10)  
frameAuthor.pack(side=RIGHT)
```

```
lbAuthor = Label(frameAuthor, text="made by Herr Abels")  
lbAuthor.pack()
```

GUI – Beispiel



```
# run  
root.mainloop()
```



Übung 1

Schreib ein GUI-Programm **HelloTkinter** nach folgendem Format:

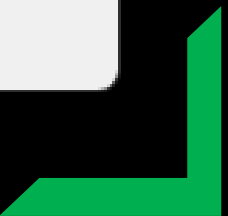
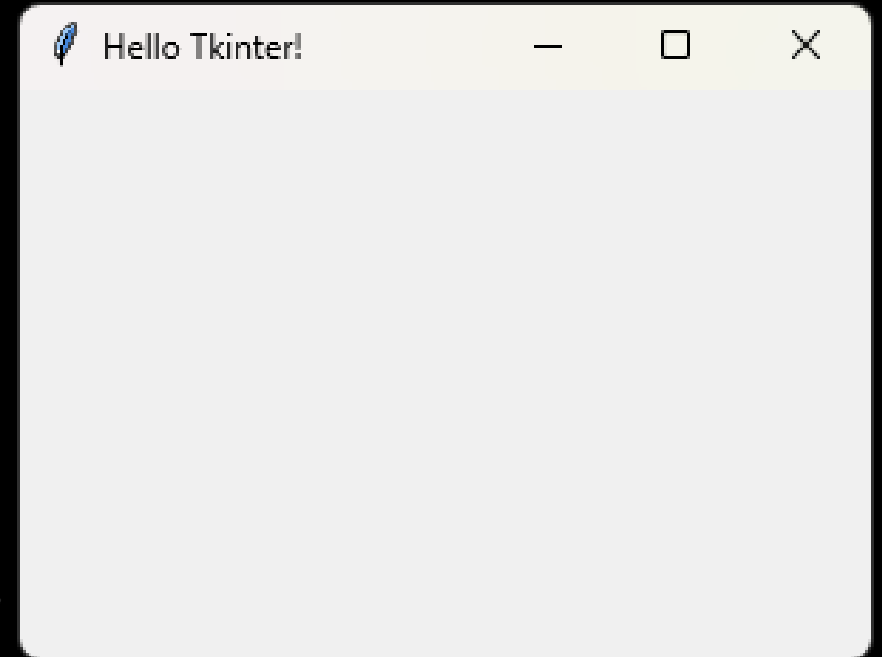
```
● ● ● HelloTkinter.py

# libraries
from tkinter import *

# root
root = Tk()
root.title("Hello Tkinter!")
root.geometry("300x200")

# components

# run
root.mainloop()
```





Übung 2

Schreibe ein Gui-Programm **Cookieclicker**, in dem ein Label bei jedem Click eines Buttons seinen Wert um 1 erhöht. Gestalte es dabei nach deinen eigenen Vorstellungen.



```
Cookieclicker.py

...

# components
lbTitle = Label(
    frame,
    text = "Mein Cookie Clicker",
    font = ("Arial", 25),
    fg = "brown",
    bg = "#ccc",
    padx = 20,
    pady = 10
)
lbTitle.place(x = 60, y = 30)

lbCookie = Label(
    ...
)
lbCookie.place(...)

def click():
    count = int(lbCookie["text"])
    count += 1
    lbCookie.config(text = count)

btnClick = Button(
    ...
    command = click
)
...
...
```





Übung 2



```
Cookieclicker.py

# libraries
from tkinter import *

# frame
frame = Tk()
frame.title("Cookie Clicker")
frame.geometry("450x400")

# components
lbTitle = Label(
    frame,
    text = "Mein Cookie Clicker",
    font = ("Arial", 25),
    fg = "brown",
    bg = "#ccc",
    padx = 20,
    pady = 10
)
lbTitle.place(x = 60, y = 30)
```

```
lbCookie = Label(
    frame,
    text="0",
)
lbCookie.place(x = 210, y = 150)

def click():
    count = int(lbCookie["text"])
    count += 1
    lbCookie.config(text = count)

btnClick = Button(
    frame,
    text = "Um 1 erhöhen!",
    command = click
)
btnClick.place(x=170, y=300)

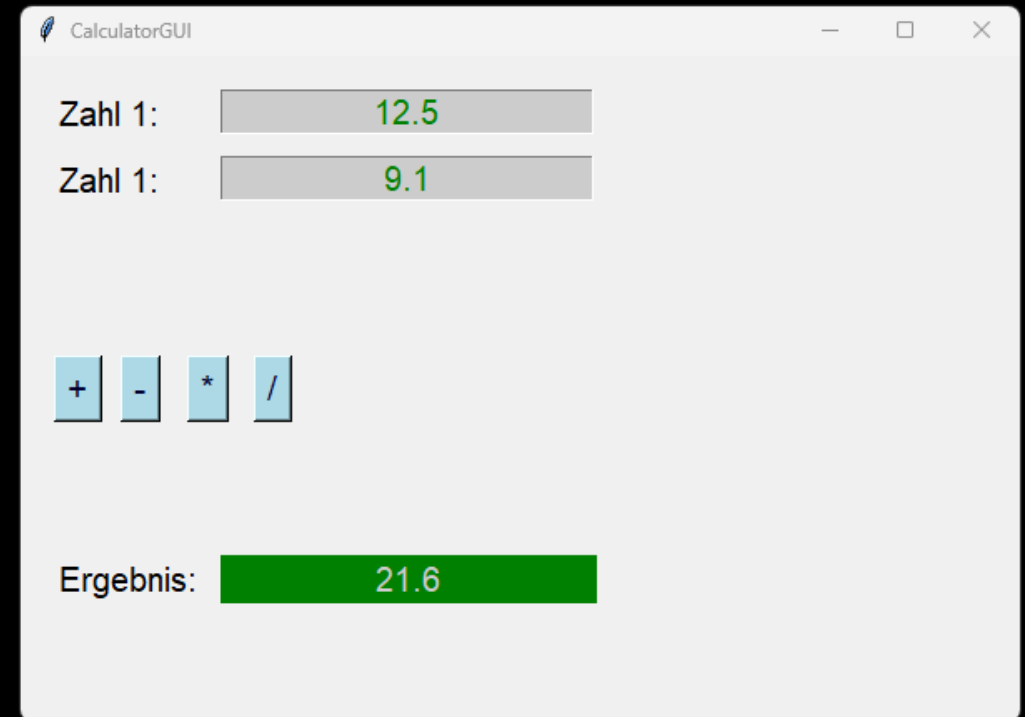
# run
frame.mainloop()
```



Übung 3

Schreibe ein GUI-Programm **CalculatorGUI** mit ...

- a) ... alle arithmetischen Operatoren ...
- b) ... alle logischen Operatoren ...
- c) ... alle Vergleichsoperatoren ...
... von Python.



- d) Erweitere dein Programm mithilfe der **math**-library um weitere Operatoren.





Übung 3



CalculatorGUI

Zahl 1:

Zahl 2:

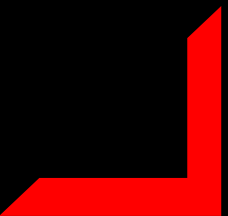
+	-	*	/	%	//
and	or	not			
==	!=	>	>=		

Ergebnis:





Tagebucheintrag





Wochenübung

Schreibe ein GUI-Programm **TemperaturRechner**, das zwischen Celsius und Fahrenheit konvertiert.

